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Claims 1-8 (Cancel)

Claim 9 (Original)

9. An aperture-provided lens comprising an aperture having a first opening and a second opening correspondingly to the body of a lens, wherein a diffraction device is provided for at least one of said openings.

Claim 10 (Original)

10. The aperture-provided lens according to claim 9, wherein said second opening is larger than said first opening.

Claim 11 (Original)

11. The aperture-provided lens according to claim 10, wherein

said first opening has a diffraction device, the direction in which light is diffracted by said diffraction device is assumed as a first direction, the direction perpendicular to said first direction in the plane of said first opening is assumed as a second direction, and the length corresponding to said first direction of said second opening is larger than the length corresponding to said second direction of said second opening.

Claim 12 (Original)

12. The aperture-provided lens according to any one of claims 9 to 11, wherein

a second diffraction device is set in a region other than said first opening and said second opening, and

the percentage of the luminous energy penetrating without being diffracted by said second diffraction device is 5% or less.

Claim 13 (Original)

13. The aperture-provided lens according to any one of claims 9 to 11, wherein concaves and convexes are formed on the surface of a region other than said first opening and said second opening.

Claim 14 (Original)

14. The aperture-provided lens according to any one of claims 9 to 13, wherein

when assuming the diffraction device provided for said first opening as a first diffraction device and the diffraction device provided for said second opening as a third diffraction device,

the grating interval of said third diffraction device is smaller than the grating interval of said first diffraction device.

Claim 15 (Original)

15. The aperture-provided lens according to any one of claims 9 to 13, wherein

said aperture-provided lens is provided with a region A and a region B; and

a light beam passing through said region A is condensed at a point different from a point where a light beam passing through said region B is condensed.

Claim 16 (Original)

16. The aperture-provided lens according to claim 15, wherein

the region A and the region B of said aperture-provided lens are respectively provided with a flat portion and their normals are not parallel with each other.

Claim 17 (Original)

17. The aperture-provided lens according to any one of claims 9 to 16, wherein

said diffraction devices have grating intervals differing in regions and the grating interval of the diffraction device in a region far from the center of a lens is larger than that of the diffraction device in a region close to the center of the lens.

Claim 18 (Original)

18. The aperture-provided lens according to any one of claims 9 to 17, wherein said diffraction devices are the transmission type.

Claim 19 (Original)

19. The aperture-provided lens according to any one of claims 9 to 18, wherein said lens is constituted integrally with an aperture.

Claim 20 (Original)

20. The aperture-provided lens according to claim 19, wherein said aperture-provided lens is made of resin.

Claim 21 (Original)

21. An optical system comprising an aperture whose opening diameter depends on a polarizing direction and a polarizing-direction rotation means, wherein

the opening of a light beam bound for a reflector is restricted by said aperture, the polarizing-direction of the light beam whose opening is restricted is rotated by said polarizing direction rotation means, and the opening of said light beam reflected by said reflector is not restricted when the light beam passes through said aperture again.

Claims 22-23 (Cancel)

Claim 24 (Original)

24. A position detector comprising:

a light source for emitting a light beam;

a diffraction grating for generating a sub-beam in accordance with a light beam emitted from said light source;

a condensing optical system for condensing a light beam emitted from said light source on an information storage medium;

an aperture whose opening diameter depends on the polarizing direction of a passing light beam;

a quarter-waveform plate;

a photodetector for receiving the light reflected by said information storage medium and outputting a signal corresponding to the luminous energy of received light; and

an arithmetic circuit for receiving a signal output from said photodetector and outputting a position detection signal; wherein

the opening diameter of said aperture in the polarizing direction when the light beam reflected by said information storage medium passes through said aperture is larger than the opening diameter of said aperture in the polarizing direction when the light beam emitted from said condensing optical system is condensed on said information storage medium.

Claim 25 (Cancel)